

01-07-00

A

Practitioner's Docket No. _____

890-004.002

PATENT

01/06/00
1c710 U.S. PTO

1c511 U.S. PTO
09/478677
01/06/00

Preliminary Classification:

Proposed Class:

Subclass:

NOTE: "All applicants are requested to include a preliminary classification on newly filed patent applications. The preliminary classification, preferably class and subclass designations, should be identified in the upper right-hand corner of the letter of transmittal accompanying the application papers, for example 'Proposed Class 2, subclass 129.'" M.P.E.P. § 601, 7th ed.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Box Patent Application
Assistant Commissioner for Patents
Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor(s): **Ber-Fong HWANG**

WARNING: 37 C.F.R. § 1.41(a)(1) points out:

"(a) A patent is applied for in the name or names of the actual inventor or inventors.

"(1) The inventorship of a nonprovisional application is that inventorship set forth in the oath or declaration as prescribed by § 1.63, except as provided for in § 1.53(d)(4) and § 1.63(d). If an oath or declaration as prescribed by § 1.63 is not filed during the pendency of a nonprovisional application, the inventorship is that inventorship set forth in the application papers filed pursuant to § 1.53(b), unless a petition under this paragraph accompanied by the fee set forth in § 1.17(f) is filed supplying or changing the name or names of the inventor or inventors."

For (title):

**FOAM SPONGE CUTTING APPARATUS WITH BOTH VERTICAL AND
HORIZONTAL CUTTING DEVICES**

CERTIFICATION UNDER 37 C.F.R. § 1.10*

(Express Mail label number is mandatory.)

(Express Mail certification is optional.)

I hereby certify that this New Application Transmittal and the documents referred to as attached therein are being deposited with the United States Postal Service on this date January 6, 2000, in an envelope as "Express Mail Post Office to Addressee," mailing Label Number EL508859709US, addressed to the: Assistant Commissioner for Patents, Washington, D.C. 20231.

Judith Schick

(type or print name of person mailing paper)

Judith Schick

Signature of person mailing paper

WARNING: Certificate of mailing (first class) or facsimile transmission procedures of 37 C.F.R. § 1.8 cannot be used to obtain a date of mailing or transmission for this correspondence.

***WARNING:** Each paper or fee filed by "Express Mail" **must** have the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 C.F.R. § 1.10(b).

"Since the filing of correspondence under § 1.10 without the Express Mail mailing label thereon is an oversight that can be avoided by the exercise of reasonable care, requests for waiver of this requirement will **not** be granted on petition." Notice of Oct. 24, 1996, 60 Fed. Reg. 56,439, at 56,442.

(New Application Transmittal [4-1]—page 1 of 11)

09478677 "010600

1. Type of Application

This new application is for a(n)

(check one applicable item below)

- ☒ Original (nonprovisional)
☐ Design
☐ Plant

WARNING: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. § 371(c)(4), unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

WARNING: Do not use this transmittal for the filing of a provisional application.

NOTE: If one of the following 3 items apply, then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.

- ☐ Divisional.
☐ Continuation.
☐ Continuation-in-part (C-I-P).

2. Benefit of Prior U.S. Application(s) (35 U.S.C. §§ 119(e), 120, or 121)

NOTE: A nonprovisional application may claim an invention disclosed in one or more prior filed copending nonprovisional applications or copending international applications designating the United States of America. In order for a nonprovisional application to claim the benefit of a prior filed copending nonprovisional application or copending international application designating the United States of America, each prior application must name as an inventor at least one inventor named in the later filed nonprovisional application and disclose the named inventor's invention claimed in at least one claim of the later filed nonprovisional application in the manner provided by the first paragraph of 35 U.S.C. § 112. Each prior application must also be:

(i) An international application entitled to a filing date in accordance with PCT Article 11 and designating the United States of America; or

(ii) Complete as set forth in § 1.51(b); or

(iii) Entitled to a filing date as set forth in § 1.53(b) or § 1.53(d) and include the basic filing fee set forth in § 1.16; or

(iv) Entitled to a filing date as set forth in § 1.53(b) and have paid therein the processing and retention fee set forth in § 1.21(f) within the time period set forth in § 1.53(f).

37 C.F.R. § 1.78(a)(1).

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., or benefit of a prior provisional application is claimed, then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

WARNING: If an application claims the benefit of the filing date of an earlier filed application under 35 U.S.C. §§ 120, 121 or 365(c), the 20-year term of that application will be based upon the filing date of the earliest U.S. application that the application makes reference to under 35 U.S.C. §§ 120, 121 or 365(c). (35 U.S.C. § 154(a)(2) does not take into account, for the determination of the patent term, any application on which priority is claimed under 35 U.S.C. §§ 119, 365(a) or 365(b).) For a c-i-p application, applicant should review whether any claim in the patent that will issue is supported by an earlier application and, if not, the applicant should consider canceling the reference to the earlier filed application. The term of a patent is not based on a claim-by-claim approach. See Notice of April 14, 1995, 60 Fed. Reg. 20,195, at 20,205.

(New Application Transmittal [4-1]—page 2 of 11)

099070 2282460

WARNING: When the last day of pendency of a provisional application falls on a Saturday, Sunday, or Federal holiday within the District of Columbia, any nonprovisional application claiming benefit of the provisional application must be filed prior to the Saturday, Sunday, or Federal holiday within the District of Columbia. See 37 C.F.R. § 1.78(a)(3).

- ☐ The new application being transmitted claims the benefit of prior U.S. application(s). Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

3. Papers Enclosed

- A. Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. § 1.153 (Design) Application

 8 Pages of specification

 3 Pages of claims

 7 Sheets of drawing

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to § 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. For comments on proposed then-new 37 C.F.R. § 1.84, see Notice of March 9, 1988 (1990 O.G. 57-62).

NOTE: "Identifying indicia, if provided, should include the application number or the title of the invention, inventor's name, docket number (if any), and the name and telephone number of a person to call if the Office is unable to match the drawings to the proper application. This information should be placed on the back of each sheet of drawing a minimum distance of 1.5 cm. (5/8 inch) down from the top of the page . . ." 37 C.F.R. § 1.84(c).

(complete the following, if applicable)

- ☐ The enclosed drawing(s) are photograph(s), and there is also attached a "PETITION TO ACCEPT PHOTOGRAPH(S) AS DRAWING(S)." 37 C.F.R. § 1.84(b).
- ☒ formal
- ☐ Informal

B. Other Papers Enclosed

 7 Pages of declaration and power of attorney

 1 Pages of abstract

 1 Other (title page)

4. Additional papers enclosed

- ☐ Amendment to claims
- ☐ Cancel in this applications claims _____ before calculating the filing fee. (At least one original independent claim must be retained for filing purposes.)
- ☐ Add the claims shown on the attached amendment. (Claims added have been numbered consecutively following the highest numbered original claims.)
- ☐ Preliminary Amendment
- ☐ Information Disclosure Statement (37 C.F.R. § 1.98)
- ☐ Form PTO-1449 (PTO/SB/08A and 08B)
- ☐ Citations

- ☐ Declaration of Biological Deposit
- ☐ Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.
- ☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative
- ☐ Special Comments
- ☐ Other

5. Declaration or oath (including power of attorney)

NOTE: A newly executed declaration is not required in a continuation or divisional application provided that the prior nonprovisional application contained a declaration as required, the application being filed is by all or fewer than all the inventors named in the prior application, there is no new matter in the application being filed, and a copy of the executed declaration filed in the prior application (showing the signature or an indication thereon that it was signed) is submitted. The copy must be accompanied by a statement requesting deletion of the names of person(s) who are not inventors of the application being filed. If the declaration in the prior application was filed under § 1.47, then a copy of that declaration must be filed accompanied by a copy of the decision granting § 1.47 status or, if a nonsigning person under § 1.47 has subsequently joined in a prior application, then a copy of the subsequently executed declaration must be filed. See 37 C.F.R. §§ 1.63(d)(1)-(3).

NOTE: A declaration filed to complete an application must be executed, identify the specification to which it is directed, identify each inventor by full name including family name and at least one given name, without abbreviation together with any other given name or initial, and the residence, post office address and country or citizenship of each inventor, and state whether the inventor is a sole or joint inventor. 37 C.F.R. § 1.63(a)(1)-(4).

☒ Enclosed

Executed by

(check all applicable boxes)

☒ inventor(s).

☐ legal representative of inventor(s).
37 C.F.R. §§ 1.42 or 1.43.

☐ joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.

☐ This is the petition required by 37 C.F.R. § 1.47 and the statement required by 37 C.F.R. § 1.47 is also attached. See item 13 below for fee.

☐ Not Enclosed.

NOTE: Where the filing is a completion in the U.S. of an International Application or where the completion of the U.S. application contains subject matter in addition to the International Application, the application may be treated as a continuation or continuation-in-part, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.

☐ Application is made by a person authorized under 37 C.F.R. § 1.41(c) on behalf of all the above named inventor(s).

(The declaration or oath, along with the surcharge required by 37 C.F.R. § 1.16(e) can be filed subsequently).

☐ Showing that the filing is authorized.
(not required unless called into question. 37 C.F.R. § 1.41(d))

0947867-010600

6. Inventorship Statement

WARNING: *If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.*

The inventorship for all the claims in this application are:

☒ The same.

or

☐ Not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,

☐ is submitted.

☐ will be submitted.

7. Language

NOTE: *An application including a signed oath or declaration may be filed in a language other than English. An English translation of the non-English language application and the processing fee of \$130.00 required by 37 C.F.R. § 1.17(k) is required to be filed with the application, or within such time as may be set by the Office. 37 C.F.R. § 1.52(d).*

☒ English

☐ Non-English

☐ The attached translation includes a statement that the translation is accurate. 37 C.F.R. § 1.52(d).

8. Assignment

☐ An assignment of the invention to _____

☐ is attached. A separate ☐ "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or ☐ FORM PTO 1595 is also attached.

☐ will follow.

NOTE: *"If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).*

WARNING: *A newly executed "CERTIFICATE UNDER 37 C.F.R. § 3.73(b)" must be filed when a continuation-in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.*

(New Application Transmittal [4-1]—page 5 of 11)

009070" 4984450

9. Certified Copy

Certified copy(ies) of application(s)

Country	Appln. No.	Filed
Country	Appln. No.	Filed
Country	Appln. No.	Filed

from which priority is claimed

- ☐ is (are) attached.
☐ will follow.

NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 C.F.R. § 1.55(a) and 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. § 120 is itself entitled to priority from a prior foreign application, then complete Item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 C.F.R. § 1.16)

- A. ☒ Regular application

CLAIMS AS FILED			
Number filed	Number Extra	Rate	Basic Fee 37 C.F.R. § 1.16(a) \$760.00
Total			
Claims (37 C.F.R. § 1.16(c))	6 - 20 = 0	× \$ 18.00	
Independent Claims (37 C.F.R. § 1.16(b))	1 - 3 = 0	× \$ 78.00	
Multiple dependent claim(s), if any (37 C.F.R. § 1.16(d))		+ \$260.00	

- ☐ Amendment cancelling extra claims is enclosed.
☐ Amendment deleting multiple-dependencies is enclosed.
☐ Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 C.F.R. § 1.16(d).

Filing Fee Calculation

\$ 760.00

- B. ☐ Design application
(\$310.00—37 C.F.R. § 1.16(f))

Filing Fee Calculation

\$ _____

- C. ☐ Plant application
(\$480.00—37 C.F.R. § 1.16(g))

Filing fee calculation

\$ _____

11. Small Entity Statement(s)

- ☒ Statement(s) that this is a filing by a small entity under 37 C.F.R. § 1.9 and 1.27 is (are) attached.

WARNING: "Status as a small entity must be specifically established in each application or patent in which the status is available and desired. Status as a small entity in one application or patent does not affect any other application or patent, including applications or patents which are directly or indirectly dependent upon the application or patent in which the status has been established. The refiling of an application under § 1.53 as a continuation, division, or continuation-in-part (including a continued prosecution application under § 1.53(d)), or the filing of a reissue application requires a new determination as to continued entitlement to small entity status for the continuing or reissue application. A nonprovisional application claiming benefit under 35 U.S.C. § 119(e), 120, 121, or 365(c) of a prior application, or a reissue application may rely on a statement filed in the prior application or in the patent if the nonprovisional application or the reissue application includes a reference to the statement in the prior application or in the patent or includes a copy of the statement in the prior application or in the patent and status as a small entity is still proper and desired. The payment of the small entity basic statutory filing fee will be treated as such a reference for purposes of this section." 37 C.F.R. § 1.28(a)(2).

WARNING: "Small entity status must not be established when the person or persons signing the . . . statement can *unequivocally* make the required self-certification." M.P.E.P., § 509.03, 6th ed., rev. 2, July 1996 (emphasis added).

(complete the following, if applicable)

- ☐ Status as a small entity was claimed in prior application
 _____ / _____, filed on _____, from which benefit
 is being claimed for this application under:

35 U.S.C. § ☐ 119(e),
☐ 120,
☐ 121,
☐ 365(c),

and which status as a small entity is still proper and desired.

- ☐ A copy of the statement in the prior application is included.

Filing Fee Calculation (50% of A, B or C above)

\$ 380.00

NOTE: Any excess of the full fee paid will be refunded if small entity status is established and a refund request are filed within 2 months of the date of timely payment of a full fee. The two-month period is not extendable under § 1.136. 37 C.F.R. § 1.28(a).

12. Request for International-Type Search (37 C.F.R. § 1.104(d))

(complete, if applicable)

- ☐ Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

0947867 010600

13. Fee Payment Being Made at This Time☐ Not Enclosed☐ No filing fee is to be paid at this time.*(This and the surcharge required by 37 C.F.R. § 1.16(e) can be paid subsequently.)*☒ Enclosed☒ Filing fee \$ 380.00☐ Recording assignment
(\$40.00; 37 C.F.R. § 1.21(h))
(See attached "COVER SHEET FOR
ASSIGNMENT ACCOMPANYING NEW
APPLICATION".) \$ _____☐ Petition fee for filing by other than all the
inventors or person on behalf of the inventor
where inventor refused to sign or cannot be
reached
(\$130.00; 37 C.F.R. §§ 1.47 and 1.17(i)) \$ _____☐ For processing an application with a
specification in
a non-English language
(\$130.00; 37 C.F.R. §§ 1.52(d) and 1.17(k)) \$ _____☐ Processing and retention fee
(\$130.00; 37 C.F.R. §§ 1.53(d) and 1.21(f)) \$ _____☐ Fee for international-type search report
(\$40.00; 37 C.F.R. § 1.21(e)) \$ _____

NOTE: 37 C.F.R. § 1.21(f) establishes a fee for processing and retaining any application that is abandoned for failing to complete the application pursuant to 37 C.F.R. § 1.53(f) and this, as well as the changes to 37 C.F.R. §§ 1.53 and 1.78(a)(1), indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid, or the processing and retention fee of § 1.21(f) must be paid, within 1 year from notification under § 53(f).

Total fees enclosed \$ 380.00

14. Method of Payment of Fees☒ Check in the amount of \$ 380.00☐ Charge Account No. _____ in the amount of
\$ _____

A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 C.F.R. § 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing, the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

- ☒ The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 23-0442:

- ☒ 37 C.F.R. § 1.16(a), (f) or (g) (filing fees)
☐ 37 C.F.R. § 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 C.F.R. § 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

- ☐ 37 C.F.R. § 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)
☐ 37 C.F.R. § 1.17(a)(1)-(5) (extension fees pursuant to § 1.136(a)).
☐ 37 C.F.R. § 1.17 (application processing fees)

NOTE: ". . . A written request may be submitted in an application that is an authorization to treat any concurrent or future reply, requiring a petition for an extension of time under this paragraph for its timely submission, as incorporating a petition for extension of time for the appropriate length of time. An authorization to charge all required fees, fees under § 1.17, or all required extension of time fees will be treated as a constructive petition for an extension of time in any concurrent or future reply requiring a petition for an extension of time under this paragraph for its timely submission. Submission of the fee set forth in § 1.17(a) will also be treated as a constructive petition for an extension of time in any concurrent reply requiring a petition for an extension of time under this paragraph for its timely submission." 37 C.F.R. § 1.136(a)(3).

- ☐ 37 C.F.R. § 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 C.F.R. § 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 C.F.R. § 1.311(b).

NOTE: 37 C.F.R. § 1.28(b) requires "Notification of any change in status resulting in loss of entitlement to small entity status must be filed in the application . . . prior to paying, or at the time of paying, . . . the issue fee. . . ." From the wording of 37 C.F.R. § 1.28(b), (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

(New Application Transmittal [4-1]—page 9 of 11)

0947867-010600

16. Instructions as to Overpayment

NOTE: "... Amounts of twenty-five dollars or less will not be returned unless specifically requested within a reasonable time, nor will the payer be notified of such amounts; amounts over twenty-five dollars may be returned by check or, if requested, by credit to a deposit account." 37 C.F.R. § 1.26(a).

- ☒ Credit Account No. 23-0442
☐ Refund

009070" 4/98/460

Reg. No. 40,061

Tel. No. (203) 261-1234

Customer No. 004955

Ken Lao

SIGNATURE OF PRACTITIONER

Kenneth Q. Lao

(type or print name of attorney)

Ware, Fressola, Van Der Sluys & Adolphson LLP

P.O. Address Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468

☐ **Incorporation by reference of added pages**

(check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED)

- ☐ Plus Added Pages for New Application Transmittal Where Benefit of Prior U.S. Application(s) Claimed

Number of pages added _____

- ☐ Plus Added Pages for Papers Referred to in Item 4 Above

Number of pages added _____

- ☐ Plus added pages deleting names of inventor(s) named in prior application(s) who is/are no longer inventor(s) of the subject matter claimed in this application.

Number of pages added _____

- ☐ Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

☒ **Statement Where No Further Pages Added**

(if no further pages form a part of this Transmittal, then end this Transmittal with this page and check the following item)

- ☒ This transmittal ends with this page.

009070" 498460

Serial or Patent No.:

Attorney's Docket No.:

Filed or Issued:

890-004.002

For: FOAM SPONGE CUTTING APPARATUS WITH BOTH VERTICAL AND HORIZONTAL CUTTING DEVICES

**VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS
(37 C.F.R. §1.9(F) AND §1.27(C)) - INDEPENDENT INVENTOR**

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled:

FOAM SPONGE APPARATUS WITH BOTH VERTICAL AND HORIZONTAL CUTTING DEVICES

described in:

- ☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 C.F.R. §1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 C.F.R. §1.9(d) or a nonprofit organization under 37 C.F.R. §1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

- ☒ no such person, concern, or organization
☐ person, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 C.F.R. §1.27)

FULL NAME _____
 ADDRESS _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NON PROFIT ORGANIZATION

FULL NAME _____
 ADDRESS _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NON PROFIT ORGANIZATION

FULL NAME _____
 ADDRESS _____

☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NON PROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. §1.28(b)).

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are belief to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

Ber-Fong HWANG

NAME OF INVENTOR

NAME OF INVENTOR

NAME OF INVENTOR

SIGNATURE OF INVENTOR

SIGNATURE OF INVENTOR

SIGNATURE OF INVENTOR

Dec. 16, 1999

DATE

DATE

DATE

UNITED STATES PATENT APPLICATION

of

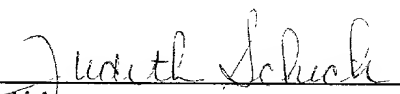
Ber-Fong Hwang

relating to a

**FOAM SPONGE CUTTING APPARATUS WITH BOTH
VERTICAL AND HORIZONTAL CUTTING DEVICES**

CERTIFICATE OF MAILING UNDER 37 CFR 1.10

I hereby certify that this correspondence is being deposited with the United States Postal Service on this date, January 6, 2000, in an envelope marked as "Express Mail Post Office to Addressee," Mailing Label Number EL508859709US, addressed to the Assistant Commissioner for Patents, Washington, DC 20231.



Judith Schick

009070" 22982460

FOAM SPONGE CUTTING APPARATUS WITH BOTH VERTICAL AND HORIZONTAL CUTTING DEVICES

BACKGROUND OF THE INVENTION

5

The present invention relates to a foam sponge cutting apparatus with both vertical and horizontal cutting devices. A vertical cutting device and a horizontal cutting device are at the same time disposed on the blade strip frame of the cutting apparatus. The blade strips are moved up and down, while keeping in a horizontal state or moved left and right, while keeping in a vertical state. By means of the vertical and horizontal cutting devices, the foam sponge or the like can be cut into products with various irregular or curved shapes in both vertical and horizontal direction.

15

A conventional foam sponge cutting apparatus uses a blade which cannot be moved so that the foam sponge can be cut only along a straight line. Also, such foam sponge cutting apparatus lacks blade deflection rectifying structure so that it is impossible to adjust the blade in time and the cutting face is often unplane. Moreover, in the case that the blade becomes rusted or obtuse, it is quite difficult to replace the blade. In addition, in cutting, when it is desired to change the position of the horizontal blade strip, it is necessary to drive a control mechanism to shift the large and heavy structure body. This wastes a great amount of power.

20

SUMMARY OF THE INVENTION

25

It is therefore a primary object of the present invention to provide a foam sponge cutting apparatus with both vertical and horizontal cutting devices, in which the horizontal blade strip can be moved up and down, while keeping in a horizontal state so that the foam sponge block can be cut into products with various irregular or curved shapes in horizontal direction. Therefore, the cutting operation can be speeded to save cost.

30

It is a further object of the present invention to provide the above foam sponge cutting apparatus in which the vertical blade strip can be moved left and right, while keeping in a vertical state so that the foam sponge block can be cut into products with various irregular or curved shapes in vertical direction. Therefore, the cutting operation can be speeded to save cost.

It is still a further object of the present invention to provide the above foam sponge cutting apparatus in which by means of the pulley units, linear slide bars and guide rails, the movement of the blade strip can be accomplished by reversely synchronously sliding only a few elements. Therefore, it is no more necessary to move the entire blade strip frame body and thus the power consumption is lowered.

According to the above objects, the motor drives the transmission shaft to rotate and via the thread rods, the left and right seat bodies of the blade turning unit are respectively synchronously moved along the linear slide bars and the guide rails of the linear slide bar seats. A guide wheel and a blade seat pulley respectively disposed on the two seat bodies are also synchronously moved along therewith to keep the working section of the blade strip moving up and down in a horizontal state or left and right in a vertical state. A blade strip deflection rectifying mechanism is able to automatically detect and rectify the deflection of the blade strip. The working bench is reciprocally linearly moved back and forth and the positions of the foam sponge and blade strip on the plane are adjusted by means of numeral control so as to cut the foam sponge into products with various irregular or curved shapes. A pneumatic cylinder serves to push the guide wheel to loosen the blade strip for easy replacement thereof. Therefore, the horizontal and vertical cutting operations are facilitated and stabilized and the power consumption is reduced and thus the cost is lowered.

The present invention can be best understood through the following description and accompanying drawings wherein:

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a perspective view of the foam sponge cutting apparatus of the present invention;

5 Fig. 2 is a front assembled view of the horizontal blade strip structure of the present invention in which the cover of the blade strip frame is opened;

Fig. 3 is a side view of the working bench of the present invention;

Fig. 4 is a plane assembled view of the blade strip deflection rectifying mechanism of the present invention;

10 Fig. 5 is a perspective view of the blade strip deflection rectifying mechanism of the present invention;

Fig. 6 is a front assembled view of the vertical blade strip structure of the present invention in which the cover of the blade strip frame is opened;

Fig. 7 shows the application of the present invention in one state; and

15 Fig. 8 shows the application of the present invention in another state.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Please refer to Figs. 1 to 3. The present invention includes an apparatus body 10 and a blade strip frame 20. A working bench 11 is mounted on the apparatus body 10. A motor 13 is disposed under the working bench 11 and fitted with a toothed belt and wheel assembly 14. Two ends of each of the front and rear sections of the working bench 11 are disposed with roller shafts 12. The blade strip frame 20 is disposed with a horizontal cutting device 16. The left column of the horizontal cutting device 16 is disposed with a linear slide bar 22. A thread rod 31 is underlaid on lower side of the slide bar 22. A guide rail 21 is disposed on right side of slide bar 22 of the left column. The right column is disposed with two slide bars 22. A thread rod 31 is underlaid on lower side of each of the slide bars 22.

A blade turning unit 32 includes a left and a right blade seats. The right blade seat is hung on the slide bar 22 and the left blade seat is hung on the guide rail 21 and connected with the slide bar 22 on the left side.

Referring to Figs. 2 and 4, a blade strip deflection rectifying mechanism 50 is disposed on the blade turning unit 32. The blade holder 51 at front end is integrally connected with a first positive gear 52 for clamping a blade strip 90. Two ends of the first positive gear 52 are respectively engaged with two positive gears 53, 58. A spiral rod 54 is engaged with upper side of the second positive gear 53 and a slide block 55 is disposed on the spiral rod 54. A detector unit 56 is positioned beside the slide block 55, including an upper detector A and a lower detector B. A third positive gear 58 is disposed at the output shaft of a servomotor 57. As shown in Figs. 4 and 5, when the blade face of the blade strip 90 is turned by a certain angle, the blade holder 51 is also turned by a certain angle to make the first positive gear 52 rotate and indirectly drive the adjacent second positive gear 53 and the spiral rod 54 to rotate. Accordingly, the slide block 55 is vertically moved. When the turning angle of the blade strip 90 is responsive of the vertical moving height of the slide block and exceeds the allowed limit of the upper detector A or lower detector B, the detector unit 56 will detect this and immediately activate the servo motor 57 to operate forward or backward in time for driving the third positive gear 58 to rotate and drive the first positive gear 52 to rotate. Accordingly, the blade holder 51 can carry the blade strip 90 and rectify the deflection to a correct angle. Therefore, the detector unit is a safety device for automatically sensing and automatically rectifying the deflection.

Referring to Fig. 2, a guide wheel unit 40 includes a driving wheel 41, a pulley 43 and four guide wheels 44, 45, 46, 47. The driving wheel 41 is mounted on the lower beam of the blade strip frame 20 and connected with an output shaft of a motor. The blade seat pulley 43 is disposed on left side of the left blade seat of the blade turning unit 32 and positioned on the slide bar 22 and meshes with the thread rod 31 thereunder. The first and second guide wheels 44, 45 are mounted at two ends of the upper beam. The upper edges of the two wheels are adjacent to the tangential position. The third guide wheel 46 has a smaller diameter and is disposed on upper side of the driving wheel 41. The fourth guide wheel 47 is disposed on the upper side of the slide bar 22 of the right column and meshes with the thread rod 31 thereunder. A pneumatic cylinder 48 is vertically disposed on lower side of the second guide

wheel 45 and coupled therewith.

5 A blade strip 90 is wound over the driving wheel 41 and pulled upward to the second guide wheel 45. Then the blade strip 90 is tangentially pulled to the first guide wheel 44 and further pulled downward to the left blade seat pulley 43. Then the blade strip 90 horizontally passes through the left and right blade seats and then pulled to the fourth guide wheel 47 and then downward pulled to the third guide wheel 46. Finally, the blade strip is pulled back to the driving wheel 41 to form a circularly winding space. The blade strip 90 includes a horizontal working section X and other sections forming the circularly winding space.

10 The blade turning unit movement control mechanism 93 includes a motor 23 the output shaft end of which via a toothed belt 25 and a toothed pulley 26 is coupled with a transmission shaft 24. The left and right ends of the transmission shaft 24 are respectively vertically connected with the slide bars 22 and mesh with the thread rods 31 thereunder.

15 The present invention is characterized in that when the motor 23 outputs rotational power, the toothed belt 25 and the toothed pulley 26 are fitted with each other to drive the transmission shaft 24 to rotate. By means of the thread rods 31 under the respective linear slide bars 22, the left and right seat bodies 33 of the blade turning unit 32 are respectively reversely synchronously moved along the slide bar 22 and the guide rail 21. The fourth guide wheel 47 and the blade seat pulley 43 are also guided by the thread rods 31 and synchronously reversely moved along therewith to keep the working section X of the blade strip 90 moving upper and down in a horizontal state.

20 When the motor drives the driving wheel 41 to rotate, the blade strip 90 is continuously revolved by means of the transmission of a guide wheel unit 40 so as to provide a cutting effect on the working bench 11.

25 The pneumatic cylinder 48 pushes and displaces the second guide wheel 45 to

change the circularly close winding space of the blade strip so as to loosen the blade strip 90 for easy replacement thereof.

In addition to the above horizontal cutting device 16, the other side of the blade strip frame 20 can be disposed with a vertical cutting device 17. The components of the vertical cutting device 17 are similar to those of the horizontal cutting device, while the guide wheel unit is installed in altered direction. Therefore, one single cutting apparatus can provide both vertical and horizontal cutting functions.

Referring to Fig. 6, the components of the guide wheel unit 40' of the vertical cutting device 17 are identical to those of the aforesaid guide wheel unit 40. As shown in Fig. 2, the entire structure of the vertical cutting device is alternatively arranged in a vertical state, in which the blade strip 90' is vertically positioned on the apparatus body 10, including a working section Y and other sections forming the circularly winding space. The blade turning unit 32', the blade strip deflection rectifying mechanism 50' and the blade turning unit movement control mechanism 93' of the vertical cutting device are also identical to those of the horizontal cutting device.

Referring to Fig. 7, in use for horizontally cutting operation, the foam sponge 80 is placed on the working bench 11 and then the horizontal cutting device 16 is activated. The working bench is reciprocally linearly moved back and forth so as to cut the foam sponge along various irregular or curved cutting line 81 in horizontal direction. The travel of the blade strip 90 depends on the change of the position of the wheels of the guide wheel unit 40, whereby the driving power consumption is reduced so that the present invention can be easily and conveniently operated and is able to achieve a stable cutting effect. Therefore, the power consumption is reduced and the cost is lowered.

Referring to Fig. 8, in use for vertically cutting operation, the foam sponge 80 is placed on the working bench 11 and then the vertical cutting device 17 is activated

to similarly cut the foam sponge along various irregular or curved cutting line in vertical direction. Therefore, both vertical and horizontal cutting can be performed on one single working bench. This reduces the room occupied by the equipment and indirectly lowers the cost.

5

However, since the vertical and horizontal cutting devices co-use the working bench, when using the horizontal cutting device 16, the horizontal cutting device 17 should be shifted to the rear end of the travel to ensure safety.

10 According to the above arrangement, the present invention has the following advantages:

1. The blade strip can be moved up and down in a horizontal state and the working bench is able to move the work piece so that the foam sponge can be cut into products with various irregular or curved shapes in horizontal direction. Therefore, the cutting operation is facilitated and stabilized.

2. The blade strip can be moved left and right in a vertical state so that the foam sponge can be cut into products with various irregular or curved shapes in vertical direction. Therefore, the cutting operation is facilitated and stabilized.

3. By means of the pulley unit, linear slide bars and guide rails, the shifting and changing of the interval of the blade strip can be accomplished only by sliding of a few elements so that the power consumption is reduced and the working cost is lowered.

4. The pneumatic cylinder serves to push the guide wheel to loosen the blade strip for easy replacement thereof.

5. The guide thread rod is fitted with connecting rod bearing so that the

guide thread rod will not swing due to excessive length and the stability is enhanced.

- 5 6. One single apparatus includes both vertical and horizontal cutting devices so that the apparatus can be very conveniently used.

The above embodiment is only used to illustrate the present invention, not intended to limit the scope thereof. Many modifications of the above embodiment can be made without departing from the spirit of the present invention.

0092070" 2924150

WHAT IS CLAIMED IS:

- 09478677 " 010600
1. Foam sponge cutting apparatus with both vertical and horizontal cutting devices, comprising an apparatus body, a blade strip frame, two blade strips, two guide wheel units and two blade turning units, a working bench is mounted on the face of the apparatus body, the blade strip frame being bridged over the apparatus body, said cutting apparatus being characterized in that the blade strip frame is disposed with a horizontal cutting device, the left and right columns of the horizontal cutting device being both disposed with guide rails and transmission mechanisms, the blade strip being wound on the guide wheel unit and conducted to form a close winding line with a fixed length including a horizontal working section of the blade strip, a blade turning unit movement control mechanism being movably disposed between the left and right columns of the blade strip frame for up and down moving the blade strip, the other side of the blade strip frame being disposed with a vertical cutting device, the components of the vertical cutting device being similar to those of the horizontal cutting device, while the guide wheel unit being installed in altered direction, the blade turning unit, guide rails and transmission mechanisms being also arranged in altered direction to form a vertical cutting device.
2. Foam sponge cutting apparatus as claimed in claim 1, wherein the guide wheel unit of the horizontal cutting device includes a driving wheel, a pulley and four guide wheels, the driving wheel being mounted on the lower beam of the blade strip frame and connected with an output shaft of a motor, the blade seat pulley being disposed on left side of the left blade seat of the blade turning unit and positioned on the linear slide bar and meshing with the thread rod thereunder, the first and second guide wheels being mounted at two ends of the upper beam, the upper edges of the two wheels being adjacent to the tangential position, the third guide wheel having a smaller diameter and being disposed on upper side of the driving wheel, the fourth guide wheel being disposed on the upper side of the slide bar of the right column and meshing with the thread rod thereunder, the lower side of the second guide wheel being vertically connected with a

pneumatic cylinder for loosening the blade strip.

3. Foam sponge cutting apparatus as claimed in claim 1, wherein the blade turning unit of the horizontal cutting device includes a left and a right blade seats, each blade seat including a seat body, a transmission mechanism and a blade holder, a blade strip deflection rectifying mechanism being disposed on one of the blade seats, the blade strip deflection rectifying mechanism being connected with the blade holder of the blade seat, the blade holder being disposed at one end of the blade seat for clamping the blade strip, the right blade seat being hung on the slide bar, the left blade seat being hung on the guide rail and connected with the slide bar on left side.
4. Foam sponge cutting apparatus as claimed in claim 1 or 2, wherein the blade strip is wound over the driving wheel and pulled upward to the second guide wheel, then the blade strip being tangentially pulled to the first guide wheel and further downward pulled to the left blade seat pulley, the blade strip horizontally passing through the left and right blade seats and then being pulled to the fourth guide wheel and then pulled to the third guide wheel, finally, the blade strip being pulled back to the driving wheel to form a close circularly winding line with a fixed length.
5. Foam sponge cutting apparatus as claimed in claim 1, wherein each of the left and right columns of the horizontal cutting device is disposed with a linear slide bar, a thread rod being underlaid on lower side of the linear slide bar, a guide rail being disposed on right side of slide bar of the left column, the right column being disposed with two linear slide bars, a thread rod being also underlaid on lower side of each of the linear slide bar.
6. Foam sponge cutting apparatus as claimed in claim 1, wherein the blade turning unit movement control mechanism includes a motor the output shaft end of which via a toothed belt and a toothed pulley is coupled with a transmission shaft, the left and right ends of the transmission shaft being respectively vertically

connected with the linear slide bars and meshing with the thread rods thereunder.

09478677.010600

ABSTRACT OF THE DISCLOSURE

Foam sponge cutting apparatus with both vertical and horizontal cutting devices. A vertical cutting device and a horizontal cutting device are disposed on the blade strip frame of the apparatus body. The horizontal cutting device can be moved up and down, while keeping in a horizontal state. By means of the horizontal cutting device, the foam sponge can be easily stably cut along horizontal cutting lines on the working bench. The vertical cutting device can be moved left and right, while keeping in a vertical state. By means of the vertical cutting device, the foam sponge can be cut into products with various irregular or curved shapes in vertical direction. Therefore, one single foam sponge cutting apparatus can achieve both horizontally and vertically cutting effect.

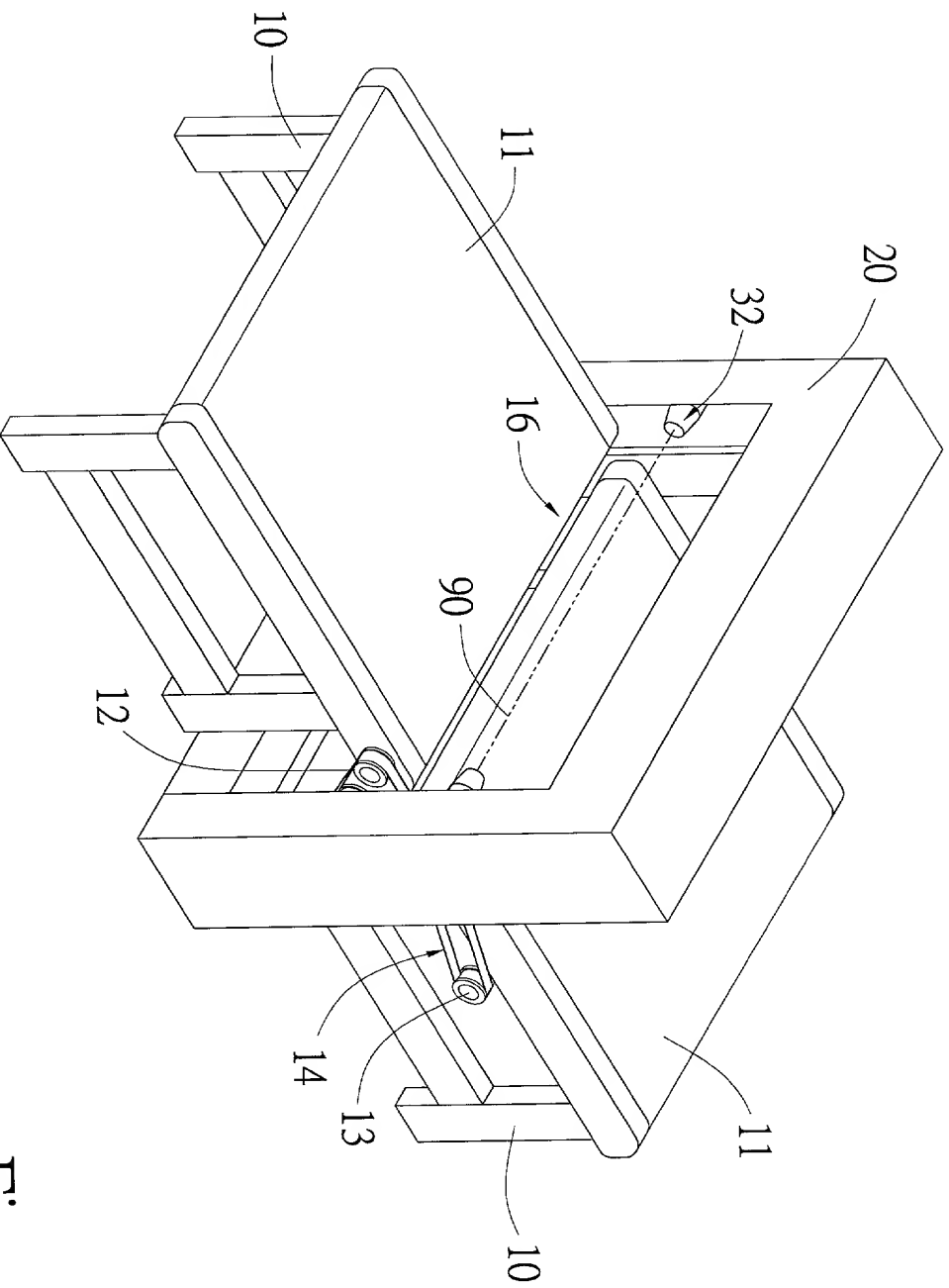


Fig. 1

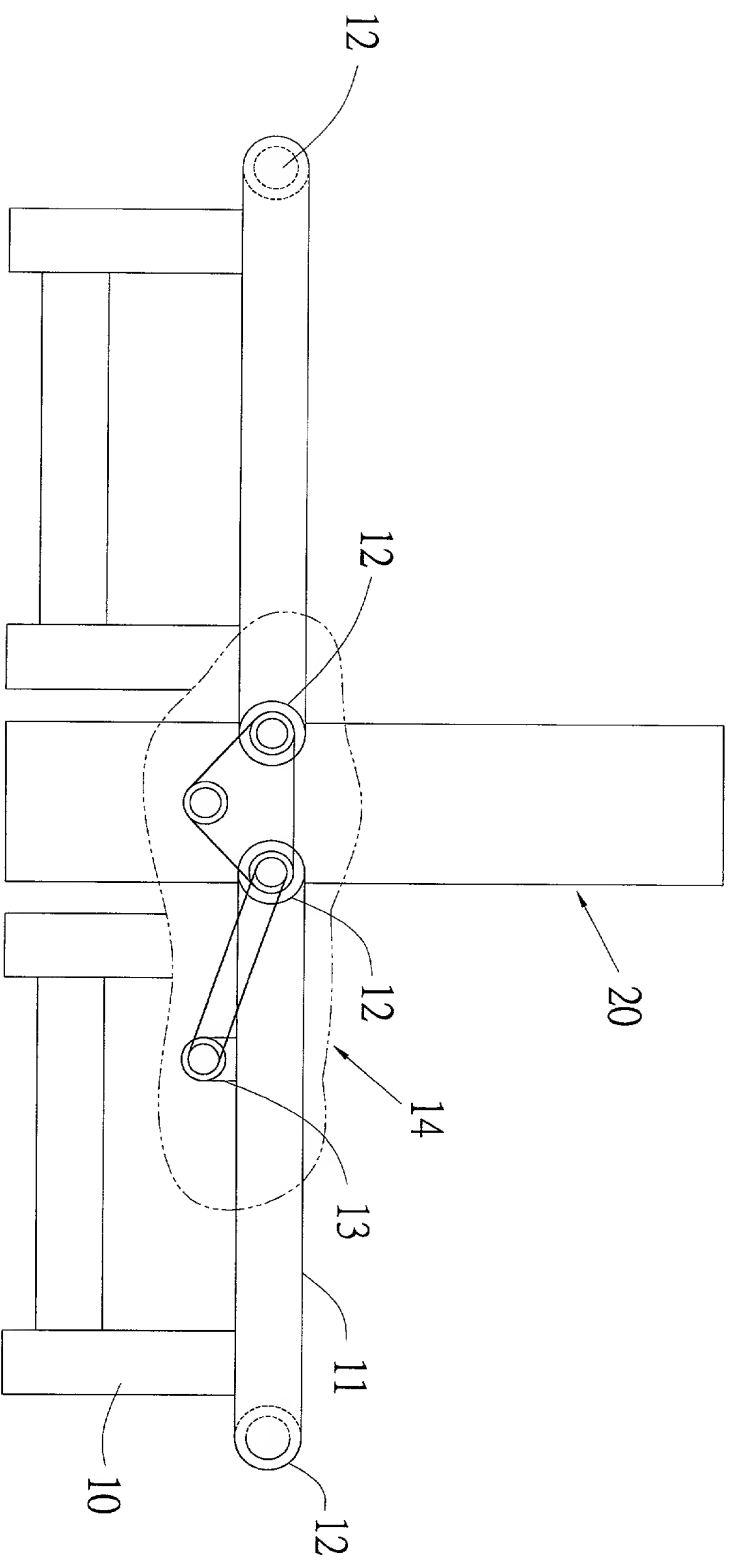


Fig. 3

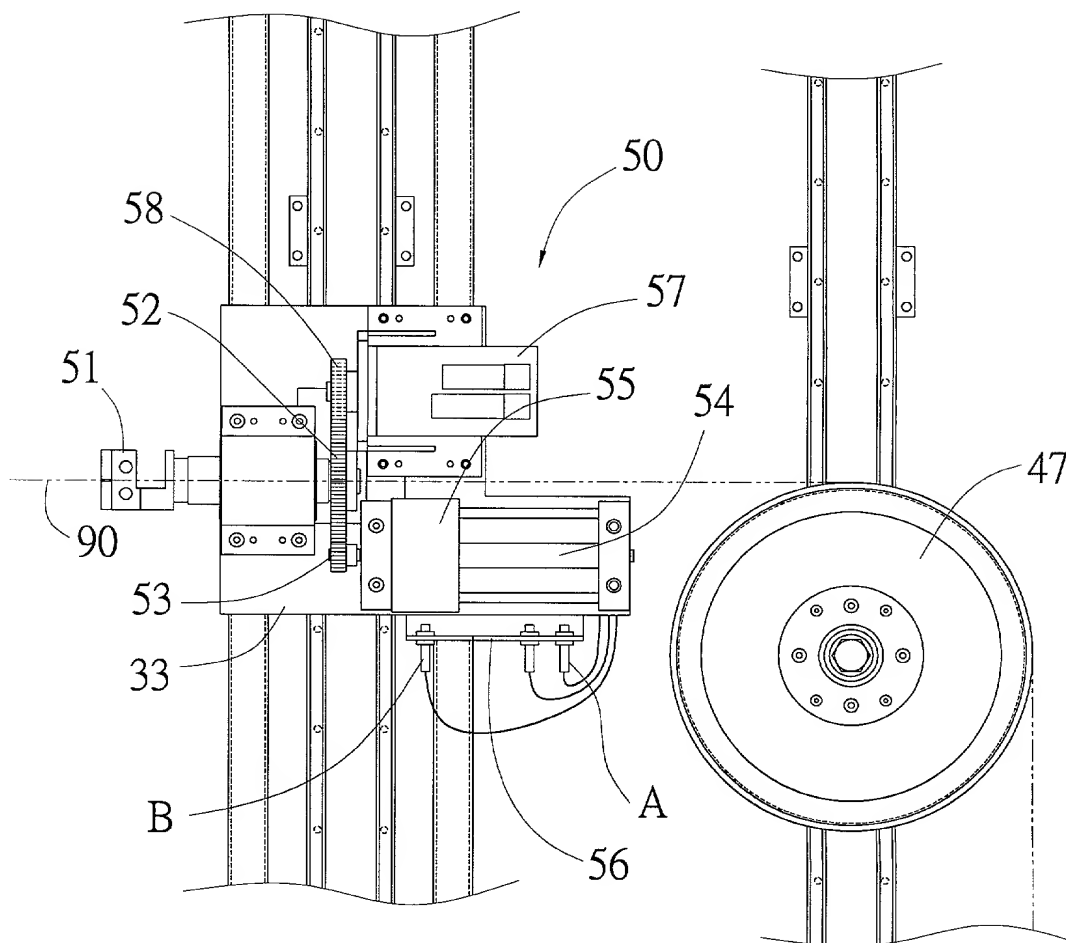


Fig. 4

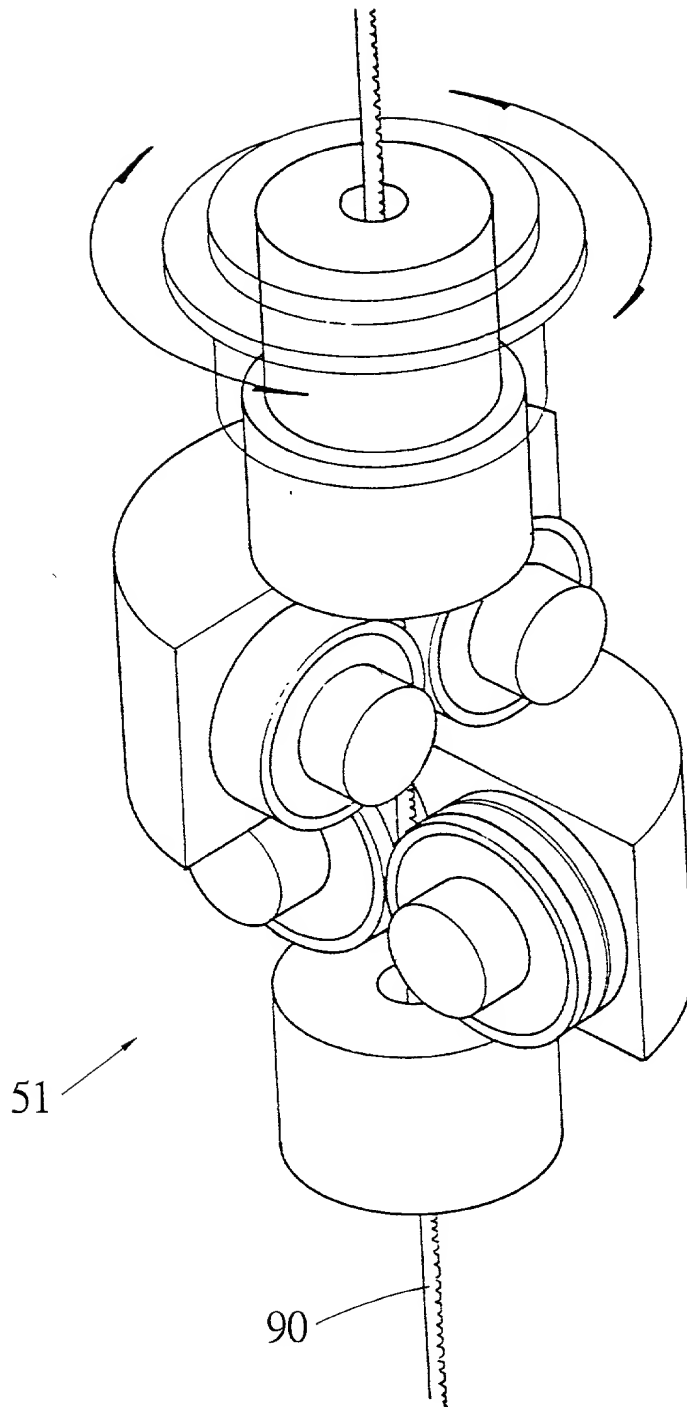


Fig. 5

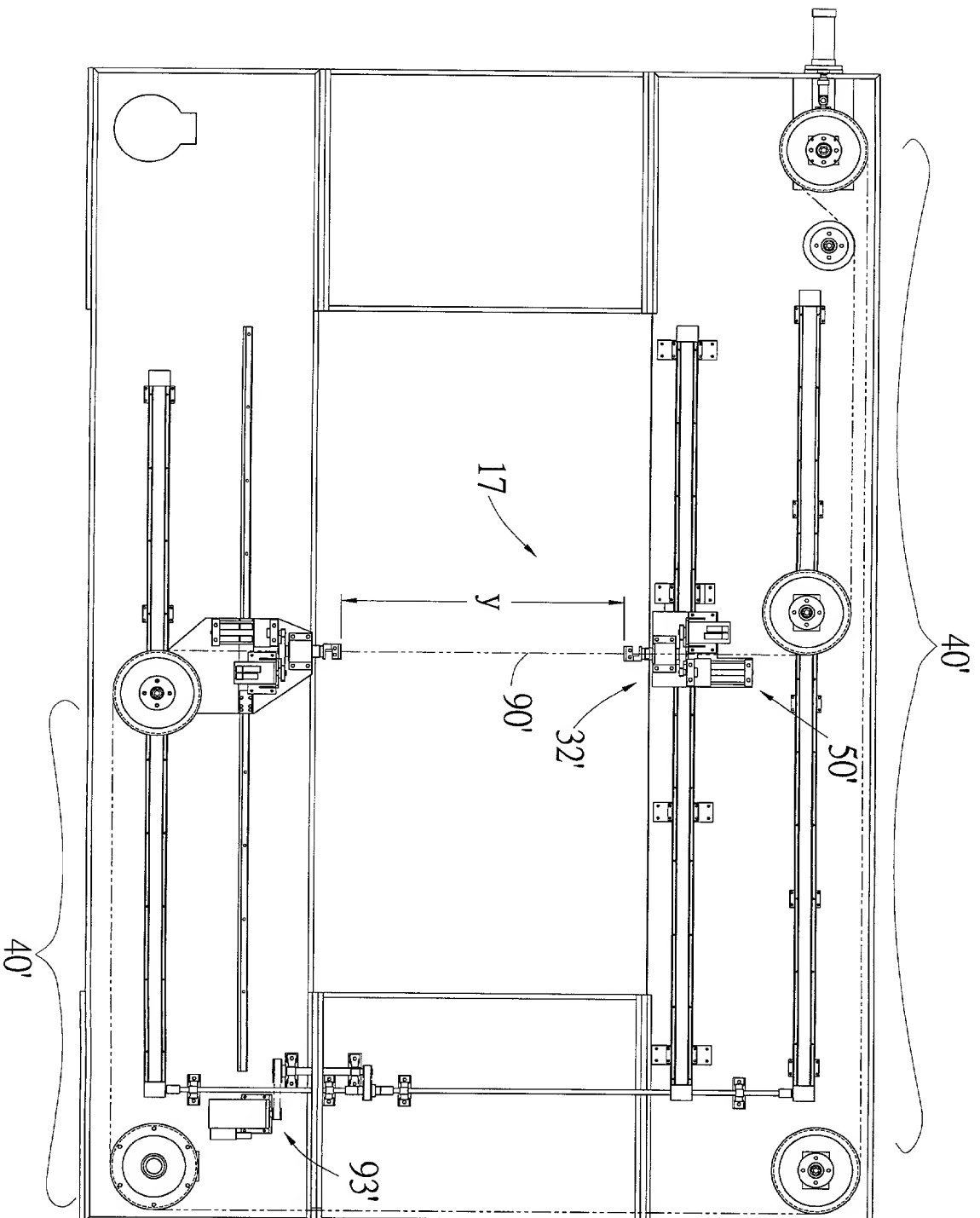
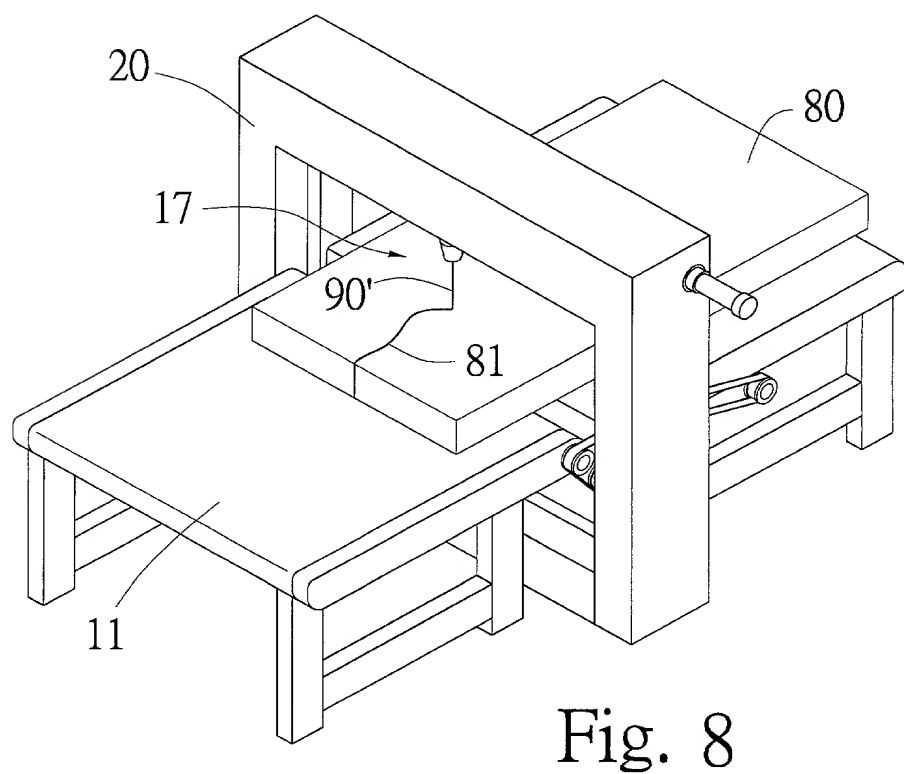
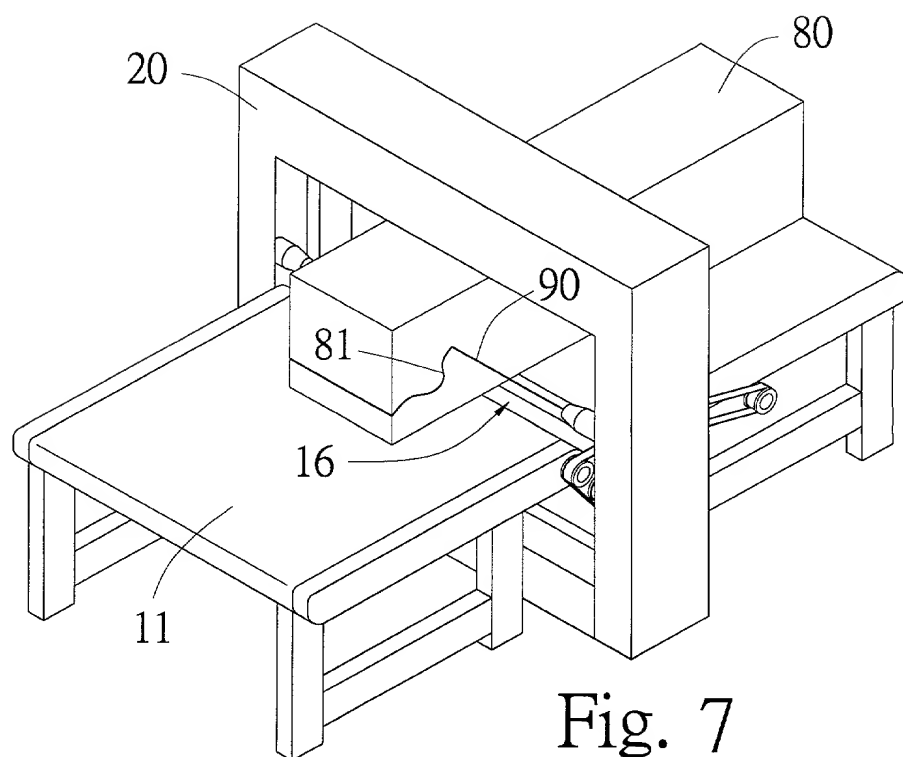


Fig. 6



COMBINED DECLARATION AND POWER OF ATTORNEY

(ORIGINAL, DESIGN, NATIONAL STAGE OF PCT, SUPPLEMENTAL, DIVISIONAL,
CONTINUATION, OR C-I-P)

As a below named inventor, I hereby declare that:

TYPE OF DECLARATION

This declaration is of the following type:

(check one applicable item below)

- ☒ original.
☐ design.
☐ supplemental.

NOTE: If the declaration is for an International Application being filed as a divisional, continuation or continuation-in-part application, do not check next item; check appropriate one of last three items.

- ☐ national stage of PCT.

NOTE: If one of the following 3 items apply, then complete and also attach ADDED PAGES FOR DIVISIONAL, CONTINUATION OR C-I-P.

NOTE: See 37 C.F.R. § 1.63(d) (continued prosecution application) for use of a prior nonprovisional application declaration in the continuation or divisional application being filed on behalf of the same or fewer of the inventors named in the prior application.

- ☐ divisional.
☐ continuation.

NOTE: Where an application discloses and claims subject matter not disclosed in the prior application, or a continuation or divisional application names an inventor not named in the prior application, a continuation-in-part application must be filed under 37 C.F.R. § 1.53(b) (application filing requirements — nonprovisional application).

- ☐ continuation-in-part (C-I-P).

INVENTORSHIP IDENTIFICATION

WARNING: If the inventors are each not the inventors of all the claims, an explanation of the facts, including the ownership of all the claims at the time the last claimed invention was made, should be submitted.

My residence, post office address and citizenship are as stated below, next to my name. I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter that is claimed, and for which a patent is sought on the invention entitled:

TITLE OF INVENTION

FOAM SPONGE CUTTING APPARATUS WITH BOTH VERTICAL AND HORIZONTAL CUTTING DEVICES

SPECIFICATION IDENTIFICATION

the specification of which:

(complete (a), (b), or (c))

(a) ☒ is attached hereto.

NOTE: "The following combinations of information supplied in an oath or declaration filed on the application filing date with a specification are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration on filing;

"(2) name of inventor(s), and attorney docket number which was on the specification as filed; or

"(3) name of inventor(s), and title which was on the specification as filed."

Notice of July 13, 1995 (1177 O.G. 60).

(b) ☐ was filed on _____, as ☐ Serial No. 0 / _____
or ☐ _____
and was amended on _____ (if applicable).

NOTE: Amendments filed after the original papers are deposited with the PTO that contain new matter are not accorded a filing date by being referred to in the declaration. Accordingly, the amendments involved are those filed with the application papers or, in the case of a supplemental declaration, are those amendments claiming matter not encompassed in the original statement of invention or claims. See 37 CFR 1.67.

NOTE: "The following combinations of information supplied in an oath or declaration filed after the filing date are acceptable as minimums for identifying a specification and compliance with any one of the items below will be accepted as complying with the identification requirement of 37 CFR 1.63:

"(1) name of inventor(s), and application number (consisting of the series code and the serial number; e.g., 08/123,456);

"(2) name of inventor(s), serial number and filing date;

"(3) name of inventor(s) and attorney docket number which was on the specification as filed;

"(4) name of inventor(s), title which was on the specification as filed and filing date;

"(5) name of inventor(s), title which was on the specification as filed and reference to an attached specification which is both attached to the oath or declaration at the time of execution and submitted with the oath or declaration; or

"(6) name of inventor(s), title which was on the specification as filed and accompanied by a cover letter accurately identifying the application for which it was intended by either the application number (consisting of the series code and the serial number; e.g., 08/123,456), or serial number and filing date. Absent any statement(s) to the contrary, it will be presumed that the application filed in the PTO is the application which the inventor(s) executed by signing the oath or declaration."

Notice of July 13, 1995 (1177 O.G. 60), M.P.E.P. § 601.01(a), 6th ed., rev. 3.

(c) ☐ was described and claimed in PCT International Application No. _____, filed on _____ and as amended under PCT Article 19 on _____ (if any).

SUPPLEMENTAL DECLARATION (37 C.F.R. § 1.67(b))

(complete the following where a supplemental declaration is being submitted)

- ☐ I hereby declare that the subject matter of the
- ☐ attached amendment
 - ☐ amendment filed on _____

was part of my/our invention and was invented before the filing date of the original application, above-identified, for such invention.

ACKNOWLEDGEMENT OF REVIEW OF PAPERS AND DUTY OF CANDOR

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information, which is material to patentability as defined in 37, Code of Federal Regulations, § 1.56.

(also check the following items, if desired)

- ☐ and which is material to the examination of this application, namely, information where there is a substantial likelihood that a reasonable Examiner would consider it important in deciding whether to allow the application to issue as a patent, and
- ☐ in compliance with this duty, there is attached an information disclosure statement, in accordance with 37 CFR 1.98.

PRIORITY CLAIM (35 U.S.C. §§ 119(a)-(d))

NOTE: "The claim to priority need be in no special form and may be made by the attorney or agent if the foreign application is referred to in the oath or declaration as required by § 1.63. The claim for priority and the certified copy of the foreign application specified in 35 U.S.C. 119(b) must be filed in the case of an interference (§ 1.630), when necessary to overcome the date of a reference relied upon by the examiner, when specifically required by the examiner, and in all other situations, before the patent is granted. If the claim for priority or the certified copy of the foreign application is filed after the date the issue fee is paid, it must be accompanied by a petition requesting entry and by the fee set forth in § 1.17(f). If the certified copy is not in the English language, a translation need not be filed except in the case of interference; or when necessary to overcome the date of a reference relied upon by the examiner; or when specifically required by the examiner, in which event an English language translation must be filed together with a statement that the translation of the certified copy is accurate." 37 C.F.R. § 1.55(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §§ 119(a)-(d) of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America listed below and have also identified below any foreign application(s) for patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

(complete (d) or (e))

- (d) ☐ no such applications have been filed.
- (e) ☐ such applications have been filed as follows.

NOTE: Where item (c) is entered above and the International Application which designated the U.S. itself claimed priority check item (e), enter the details below and make the priority claim.

**PRIOR FOREIGN/PCT APPLICATION(S) FILED WITHIN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS APPLICATION
AND ANY PRIORITY CLAIMS UNDER 35 U.S.C. § 119(a)-(d)**

COUNTRY (OR INDICATE IF PCT)	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED UNDER 37 USC 119
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>
			<input type="checkbox"/> YES NO <input type="checkbox"/>

CLAIM FOR BENEFIT OF PRIOR U.S. PROVISIONAL APPLICATION(S)
(34 U.S.C. § 119(e))

I hereby claim the benefit under Title 35, United States Code, § 119(e) of any United States provisional application(s) listed below:

PROVISIONAL APPLICATION NUMBER

FILING DATE

____ / ____ / ____
____ / ____ / ____
____ / ____ / ____

**CLAIM FOR BENEFIT OF EARLIER US/PCT APPLICATION(S)
UNDER 35 U.S.C. 120**

- ☐ The claim for the benefit of any such applications are set forth in the attached ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR CONTINUATION-IN-PART (C-I-P) APPLICATION.

009070 22987150

**ALL FOREIGN APPLICATION(S), IF ANY, FILED MORE THAN 12 MONTHS
(6 MONTHS FOR DESIGN) PRIOR TO THIS U.S. APPLICATION**

NOTE: If the application filed more than 12 months from the filing date of this application is a PCT filing forming the basis for this application entering the United States as (1) the national stage, or (2) a continuation, divisional, or continuation-in-part, then also complete **ADDED PAGES TO COMBINED DECLARATION AND POWER OF ATTORNEY FOR DIVISIONAL, CONTINUATION OR C-I-P APPLICATION** for benefit of the prior U.S. or PCT application(s) under 35 U.S.C. § 120.

POWER OF ATTORNEY

I hereby appoint the following practitioner(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

(list name and registration number)

(check the following item, if applicable)

- ☒ I hereby appoint the practitioner(s) associated with the Customer Number provided below to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith.
- ☐ Attached, as part of this declaration and power of attorney, is the authorization of the above-named practitioner(s) to accept and follow instructions from my representative(s).

SEND CORRESPONDENCE TO

Kenneth Q. Lao

☒ Address

WARE, FRESSOLA, VAN DER SLUYS & ADOLPHSON LLP
Bradford Green, Building Five
755 Main Street, P.O. Box 224
Monroe, CT 06468

DIRECT TELEPHONE CALLS TO:
(Name and telephone number)

Kenneth Q. Lao (203) 261-1234

☒ Customer Number 004955

DECLARATION

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

SIGNATURE(S)

NOTE: Carefully indicate the family (or last) name, as it should appear on the filing receipt and all other documents.

NOTE: Each inventor must be identified by full name, including the family name, and at least one given name without abbreviation together with any other given name or initial, and by his/her residence, post office address and country of citizenship. 37 CFR § 1.63(a)(3).

NOTE: Inventors may execute separate declarations/oaths provided each declaration/oath sets forth all the inventors. Section 1.63(a)(3) requires that a declaration/oath, inter alia, identify each inventor and prohibits the execution of separate declarations/oaths which each sets forth only the name of the executing inventor. 62 Fed. Reg. 53,131, 53,142, October 10, 1997,

Full name of sole or first inventor

Ber-Fong

HWANG

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

FAMILY (OR LAST NAME)

Inventor's signature

Date Dec. 16, 1999

Country of Citizenship

Taiwan, R.O.C.

Residence 10F, No. 200, Jin-Shan S. Rd., Taipei, Taiwan, R.O.C.

Post Office Address same as the residence

Full name of second joint inventor, if any

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

FAMILY (OR LAST NAME)

Inventor's signature

Date Country of Citizenship

Residence

Post Office Address

Full name of third joint inventor, if any

(GIVEN NAME)

(MIDDLE INITIAL OR NAME)

FAMILY (OR LAST NAME)

Inventor's signature

Date Country of Citizenship

Residence

Post Office Address

(check proper box(es) for any of the following added page(s)
that form a part of this declaration)

☐ **Signature** for fourth and subsequent joint inventors. *Number of pages added* _____

* * *

☐ **Signature** by administrator(trix), executor(trix) or legal representative for deceased or incapacitated inventor. *Number of pages added* _____

* * *

☐ **Signature** for inventor who refuses to sign or cannot be reached by person authorized under 37 CFR 1.47. *Number of pages added* _____

* * *

☐ Added page for **signature** by one joint inventor on behalf of deceased inventor(s) where legal representative cannot be appointed in time. (37 CFR 1.47)

* * *

☐ Added pages to combined declaration and power of attorney for divisional, continuation, or continuation-in-part (C-I-P) application.

☐ Number of pages added _____

* * *

☐ Authorization of practitioner(s) to accept and follow instructions from representative.

* * *

(if no further pages form a part of this Declaration,
then end this Declaration with this page and check the following item)

☒ This declaration ends with this page.